

LETTERS TO THE EDITOR

TO THE EDITOR:

I have read the editorial, "The Valley of Decision," in the August, 1968, issue on the inadequacies of the public health profession in providing answers on health criteria for environmental design. I have expressed on many occasions the thought expressed in the editorial that, generally, public health professionals and public health agencies usually operate on the basis that "First, there is no public health responsibility until a health hazard has been definitely established, i.e., until we can tell exactly how many people will keel over or die if it is not solved. To get that answer may take years of careful research. Hence, all *decisions* must be made by somebody else."

It is fortunate in the field of radiation protection that this has usually been the exception rather than the rule. In the early days, the National Committee on Radiation Protection took, and now continues to take, a more scientific viewpoint and is willing to establish recommendations on the basis of a variety of scientific projections. The Atomic Energy Commission and its predecessor organization, the Manhattan District, established a similar forward-looking preventive program. Likewise, this had always been the basis of any action taken by the National Center for Radiological Health and its predecessor organizations. Fortunately, the Congress, in its hearings on radiation hazards legislation which were translated into the "Radiation Control for Health and Safety Act of 1968," has continued to express its interest in maintaining a prospective view of the establishment of standards as well as an epidemiological review of the effects on lives of people on a retrospective basis. I might add that this prospective attitude in establishing standards has helped, rather than hurt, the prin-

cipal industries associated with radiation protection, namely, medicine and atomic energy.

It is hoped that the public health profession will focus its planning and environmental health standards more upon its conspicuous successes, one of which is radiation protection, than upon its conspicuous failures.

In conclusion, I must add that I view the passage of Public Law 90-602 as an indication that the Congress agrees with the prospective approach and is prepared to support enlightened public health legislation.

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TO THE EDITOR:

Science Policy Formulation: Role of the Scientist or Administrator?

The absolute, enormous magnitude and the spiraling rate of increase of the over-all research effort funded by the United States federal government in both its intramural and extramural programs have created an obvious and widening gap in accountability of monies, manpower, and facilities in regard to program cost-effectiveness and program priorities. Perhaps the most crucial aspect of this problem is that of who is best suited for the formulation of science policy—scientist or administrator? There has been much heated discussion in recent years which has attempted to analyze the pros and cons of scientists and administrators in roles of policy formulation. Unfortunately, little resolution has resulted to afford a sound proposal to recruit or develop this newly emerging category of personnel. However, the ineptness of this dichotomy is

not surprising. The psychological predispositions of intense, farsighted researchers—particularly those involved in more basic investigation—is not as easily, politically tempered as those of most administrators who are more often involved in more pragmatic considerations. Consequently, resolution of the problem becomes bogged down in stereotypic positions of “reasonable training preparation.”

This is not to suggest, however, that an impasse has been reached in regard to the recruitment of high-echelon science policy formulators. Outstandingly successful policy makers have appeared from the ranks of scientists and management alike. Dr. Vannevar Bush, who administered the Office of Scientific Research and Development which produced the atomic bomb, is an example of the former; David Lilienthal, who served as chairman of the Atomic Energy Commission, is an example of the latter. It would be foolish to impede the cross-professional strata mobility of competent, promising scientists and administrators who express interdisciplinary interests and abilities. However, it is equally naive to suggest that this source of manpower will or can produce the number and/or requisite variety of science policy formulators needed. The dynamic scope of research, research organization, and the awesome infringements of science on social order and life styles predicate the need for concerted efforts to systematically investigate the so-called “Research of Research” or “Science of Science” and direct the training of those responsible for such.

If we accept the reasonable, conglomerate surmise of need for administrative skills (management methodology, managerial technique) and research skills (scientific methodology, technical abilities) to produce an in-depth, effective formulator of science policy, it becomes readily apparent that the most feasible course of action is to develop

training programs appropriate to the flexible, functional needs of such personnel. It is not my purpose here to suggest specific curricula guidelines for such programs nor to discuss the poorly documented operation of psychological incentives and other relevant points of serious contention for such programs. However, I would like to delineate several areas of concern which can greatly affect the choice of recruitment sources of personnel for science policy formulation and can assist in demonstrating facets of program construct which bear upon needed training.

In many instances, the technical responsibilities involved in science policy formulation parallel those of research directors. These include program planning, execution, review, and liaison. Administrative functions include budget preparation, personnel and facilities utilization, scheduling, reporting, and public relations. However, the essential difference between the top level positions of research directors or research administrators and science policy formulation is one of appropriate context. Although various cabinet areas such as the Department of Defense, Department of Health, Education, and Welfare, and the Atomic Energy Commission are highly cognizant of the political and social impact of their programs, “in-house,” vested interests can stifle regard for interdepartmental and wide interdisciplinary priorities based on social indicators. Presidential commissions, select committees of the National Academy of Science, and the Office of the Science Advisor to the President are powerful instruments to effect comprehensive, in-depth science policy, and their use should be encouraged. However, their lack of “inside familiarity” with the scope of the problem and governmental rubric and the often temporary nature of their services and accountability point out the need for poignant training of more permanent

personnel, perhaps analogous to that of the professional diplomatic corps. One must bear in mind that the following proposal is not necessarily the only nor most adequate type of program needed. However, many of its attributes supersede those of traditional academic routes to science policy and represent an innovative approach to the solution of a perplexing dilemma.

Expanding federal support of the "needs of science" may be near its plateau; and with increased scientific personnel, attention to "society's need for science" requires wise, integrated policy decisions to best expend available dollars, utilize manpower, and reduce problems of social concern. It is somewhat inconceivable that many professionals will achieve or attempt to achieve doctoral level training in both life sciences and administration. And for the physicians who do so, it may be an actual loss rather than gain of talent. However, there are numerous master's level, life science graduates who have interdisciplinary interests and abilities who could be interested in and profit from an interdisciplinary doctorate program, possibly within schools of public health. Ideally, these students would already possess social science background as an undergraduate minor and have expressed some interest in program planning. Such students could maximally profit from a three-pronged program which includes continued life science research competence, a broad behavioral science course curriculum, and a block of studies in law, economics, and administration.

Although one could approach select master's level, social science, research-oriented graduates for such training, the lack of reciprocal learning ease in life science and social science curricula predisposes the life science student to a greater probability of program success. Further support for the preference of basic training in life sciences rather than

social sciences is that the subtle, biological effects of environmental influences are often not as seriously appreciated by the social scientist. In the long run we may be discussing a point of philosophical attitude which many would, unfortunately, consider a moot point. It should be stressed that the depth of training and competence in behavioral and administrative sciences must not be underrated. Intensive field training of significant placement should preclude the dissertation and complement all components of training. Very often it is precisely in the areas of social issues and economic considerations that the life scientist does not appreciate nor easily tolerate impingements on "research."

I firmly believe that although the construction of a science policy program of broad, yet in-depth, interdisciplinary framework is plagued with many difficulties of staffing, financial support, and "academia" reaction, the crucial need for effective, responsible, and comprehensive program planning and science policy requires such an attempt. A first-hand acquaintance with the pertinent problems and the tools necessary to solve them is the most sound formula for competence.

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TO THE EDITOR:

Drawing a Hypothesis

Excessive disease and illness are generally found among the poor, or those groups which are on one extreme of our social scale. High rates of neonatal deaths, infant deaths, maternal deaths, communicable diseases, malnutrition, physical deformities, accidents, psychosocial problems, and other states of ill health are prevalent among these groups.